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**WELSH BLACK CATTLE.<sup>a</sup>**

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INTRODUCTION.

The Welsh breed of cattle is considered a very valuable one in Great Britain. The cows are good milkers, but the breed is chiefly famous for its feeding qualities and the admitted excellence of the carcass, the latter being a prime favorite with English butchers. If we grant that the modern beef animal should be considered mainly from the point of view of economy in production, the above characteristics of the Welsh breed seem to entitle it to consideration.

Youatt, writing of Welsh cattle seventy years ago, said:

Great Britain does not afford a more useful animal. \* \* \* They combine to a considerable degree, and as far, perhaps, as they can be combined, the two opposite qualities of being very fair milkers with a propensity to fatten. The meat is generally beautifully marbled. It is equal to that of the Scotch cattle, and some epicures prefer it. They thrive in every situation. They will live where others starve, and they will rapidly outstrip most others when they have plenty of good pasture. \* \* \* Great numbers of them are brought to the London market. They stand their journey well and find a ready sale, for they rarely disappoint the butcher, but on the contrary prove better than appearance and touch indicate.

The above description seems to apply equally well to the present day. At any rate, large quantities of Welsh cattle are annually purchased by English graziers to fatten for the great British markets. Writing on this subject twenty years ago, Col. Henry Platt, a very noted breeder of these cattle, refers to the increasingly large number annually sold for this purpose from his district (North Wales) as follows:

It is now estimated that 50,000 are sent across the border annually. At the end of summer and beginning of autumn these cattle find their way, fat, to the London markets, where they hold their own against Scotch polls or any other breeds and command the highest prices.

The Welsh breed is a very old one, and in this respect, as well as others, resembles the Highland breed of Scotland. Like the latter, they are exceedingly hardy and thrifty. Wales is a mountainous country and in winter is often very bleak and stormy, yet in some parts the bulk of the cattle remain out of doors all the year and maintain their condition in a remarkable way.

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<sup>a</sup> Reprinted from Twenty-second Annual Report, Bureau of Animal Industry (1905).

Another authority, Prof. Thomas Winter, professor of agriculture at the University College of North Wales, referring to the manner in which these cattle had until recently been neglected by breeders, says:

If we trace the history of most breeds of cattle we come across the names of breeders who have effected great improvements in the cattle of their districts. The Welsh breed has never had its improvers, and for two centuries at least most of the best breeding stock has been allowed to leave Wales for the English pastures to be fattened for the great markets. It is only within recent years that any considerable number of Welsh agriculturists have paid special attention to the breeding of cattle. Fortunately, Welsh cattle are so inherently good that after centuries of neglect they still have no superiors for all-round purposes in the British Isles.

About thirty years ago an organized effort was made by a number of the prominent breeders to improve the breed, and a herdbook was established. Since then much has been accomplished to rectify the former mismanagement and produce a uniform animal of the best beef type.

The writer saw numerous specimens of these cattle in their native environment while on a visit to Europe last year. They are useful looking animals, though their conformation shows something of a lack of symmetry as compared with the more fashionable beef types. A quarter of a century ago the common failing of the breed was a high rump. Modern improvement, therefore, as viewed by the most intelligent breeders, has consisted chiefly in improving the symmetry without losing the original valuable characteristics. The breed has no doubt made rapid improvement in recent years, and our stockmen may judge from the information in the following pages whether this is of such a character as to warrant the use of the cattle in this country.

Attention is specially called to the chapter on "Carcass competitions and the block test." The carcass competitions at the London Smithfield show furnish a remarkable testimonial to the quality of Welsh beef. It will be seen that the Welsh and Scotch score heavily over the English breeds, and this result is the more striking when it is remembered that the entries of the former are comparatively few. The showing of the Welsh breed at the latest Smithfield slaughter test (December, 1905) was surpassingly good. Out of a total entry of four all received prizes, as follows: First, in steers under 2 years; first and fourth, in steers under three years, and fourth in the heifer class.

#### ORIGIN AND HISTORY.

There seems to be some difference of opinion as to the exact origin of Welsh Black cattle. However, as it is beside the purpose of this article to go extensively into the historical side of the question, it will suffice to give a few of the main points. Cæsar, 55 B. C. (*De Bello Gallico*, Liber VII), states that he found a great number of cattle on the island. Colonel Platt, after a search through the antiquarian lore

on this subject, concludes that the cattle mentioned by Cæsar were small, black animals, descended from the *Bos longifrons* in contradistinction to the cattle of the eastern part of Great Britain, which were descended from the *Bos urus*, the theory being that the former were domesticated in Britain prior to the Roman conquest, while the *Bos urus* type came over later with the Teutons and other tribes of Northern Europe, who drove the Celts, along with their oxen (*longifrons*) into the mountains and inaccessible parts of the western portion of the country (Wales). Youatt suggests that it is probable also, because of the fact that Wales was never entirely subdued by the early invaders of Britain, nor, indeed, by the early Norman kings of the island, that for many centuries there was little admixture with any other British cattle and that the breed would be likely to maintain many of its ancient characteristics into modern times.

Owing, no doubt, to various local influences and the restricted travel of early days, there have been several distinct breeds of Welsh Black cattle. Wallace, in 1889, divides them into two main divisions, namely, (1) the South Wales Pembroke (or Castle Martin) black, and (2) the North Wales, or Anglesea, black, to which are added the subsidiary Glamorgan breed and the old Castle Martin white. There was also a strain called the Montgomery. The authorities assert that the first two are no doubt the purest and oldest and that such breeds as the Glamorgan and Montgomery have practically been crossed out of existence.

Low characterizes the Pembroke (South Wales) as the best of the mountain breeds, they being somewhat larger in size than the West Highland breed of Scotland. The district of Castle Martin became famous for producing the best specimens of these cattle, hence this name was given to them. The Anglesea (North Wales) are described as similar in essential characteristics to the Castle Martins but of somewhat larger and coarser frame, owing to the more level nature of the country in which they are reared.

A herdbook was established for Welsh Black cattle in 1874. Later, in 1883, owing to differences having arisen between the northern and southern breeders, separate herdbooks were issued by these two divisions until 1905. In the latter year the parties made up their differences and started afresh with Volume I of a combined herdbook, which was duly issued in the year named. Volume II is to be issued in 1907. The current volume contains the names of 175 members and the entries of 211 bulls and 698 cows and heifers.

#### DESCRIPTION.

Good specimens of the Welsh breed are well proportioned, free-moving animals. Youatt, in discussing the breed, says they were favorites with Bakewell, "who considered them nearer to perfection in

some points than any other breed, except his own improved breed." Youatt was of opinion also that the South Wales cattle more nearly resembled the North Devon in conformation, while those of North Wales had more of the squareness of the Shorthorn.

A well-known authority on the breed, writing for the first volume of the North Wales Herdbook, published in 1883, briefly describes the most prominent points of the cattle, as follows:

(1) *The bull*.—Select your bull coal black, if possible. He must stand on short legs, and those naturally square, like a table. He must have a broad, straight back, also broad across his shoulders, with a strong masculine neck; thin tail, lying closely between his rumps; small, round bones, but deep, well-filled thighs to the hocks. His ribs should be well sprung (not flat), shoulder points must not project, bosom low and projecting forward between forelegs, wide apart; his head should be short, forehead broad across from one eye to the other; he must have good thick hair, soft to the touch. Do not use a bull with curly hair; also avoid an animal with bristly hair.

(2) *The cow*.—Select your breeding cow as black as possible; she should stand as square as possible on her legs, like a table; the legs short, with a broad, level back, thick neck for constitution, ribs well sprung like an umbrella when opened, tail thin at top, fitting closely between her rumps; thighs well filled, coming low down to her hocks; bosom should project forward, and your cow should stand wide between her forelegs.

Another authority wrote for the same volume as follows:

In selecting a bull of the Welsh breed, the first of the many considerations ought to be the indications by which it may be possible to form an opinion as to his constitution. This all-important point the breeder should be very careful that the animal is possessed of. The color ought to be black, the head not too large, but handsome and neatly set on; the muzzle fine, nostrils wide, the horns low and well spread, moderately strong, of rich yellow color, with black points; the eyes should be mild, large, and expressive, the throat clean, the neck a fair length, rising from the head to the shoulder top and surmounted by a moderate crest, which adds to the masculine appearance—a point so desirable in a bull. The neck should pass neatly and evenly into the body, with full neck vein that should show no undue prominence on the shoulder top; an upright shoulder in cattle is generally accompanied by a light waist—an important defect. The crops should be full and level, with no falling off behind, the ribs well sprung, springing out barrel-like and neatly joined to the crops and loins; the loins broad and strong, the hook bones not too wide, narrower than in the average Shorthorn; the quarters long, even, and rounded, with no hollow from the hooks to the tail. The tail should come neatly out of the body, and not higher at the root than the line of the back; a high tail, head, and rump are characteristic of the breed, but these defects are being gradually removed by the more scientific breeders. On both sides of the tail the quarters should turn away in a rounded manner, swelling out downward and passing into thick, deep thighs; the twist should be full, and the hind legs set well apart and not detached from the body until the level of the flank is reached; the flanks full and soft; the bottom line should be as even as the top and side lines; the bones of the legs fine, flat, and clean. The skin ought to be fairly thick, soft, and pliable over the ribs, yielding to the least pressure and springing back toward the fingers.

These are a few of the principal points which a good Welsh bull ought to possess. Many of the foregoing remarks apply to the Welsh cow, which in general character differs considerably from the bull. Her head ought to be much finer, the horns nar-

rower, their pitch more upright, the neck thinner and cleaner, with no crest; the shoulder top sharper, the bone altogether finer, the skin not quite so thick, the udder large, and the milk vessels large and well defined.

#### CHARACTERISTICS, FEEDING, AND MANAGEMENT.

Robert Wallace, in *Farm Live Stock of Great Britain*, published in 1889, advocates the use of the Welsh breed, as well as the Highland, because of their wealth of constitution and feeding qualities.

William Housman, in his report on cattle exhibited at Windsor, England, in 1889 (this being the semicentennial anniversary of the Royal Agricultural Society of England show), mentions the fact that special classes for Welsh cattle at the English "Royal" were first instituted in 1853. For the first twelve years of these shows the only breeds of cattle having special classes were the Shorthorn, Hereford, and Devon. In the course of his remarks Mr. Housman says:

Welsh cattle have unquestionably vast capabilities of both milk and beef production, and their rude health is an important recommendation. Where hardy, active cattle are required—cattle which can live roughly yet answer to keep and care, grow beef of the first quality and, under favoring conditions, great in quantity—the Welsh breed should claim a trial, and they would doubtless prove ready to adapt themselves to districts and countries to which hitherto they have been strangers.

The most economical way of preparing Welsh cattle for the market is by grazing them. This is undoubtedly their strong point, though it is claimed they are good stall feeders also. Some of the principal grazing districts in England have for many generations received the bulk of their feeders from Wales. Indeed, the demand became so strong that it threatened to be the undoing of the breed because it encouraged the wasteful and short-sighted policy adopted by so many of the breeders of selling off the pick of their herds to the graziers and retaining only the weeds to breed from. The more progressive breeders, headed by the late Mr. R. H. Harvey, of Slade Hall, Carmarthen, became alive to the necessity of checking this ruinous practice and brought about the reform movement which resulted in establishing the herdbook, thus giving the necessary impetus to breeding from pedigree.

#### WELSH COWS AS DAIRY COWS.

It has before been hinted that Welsh cows are good dairy performers when required for that purpose, but they are of course inferior to the strictly dairy breeds. It goes without saying, also, that when an animal is raised exclusively for beef the pail will necessarily suffer, but cows of this breed will soon put on flesh after their dairy career has ended.

There are no milking trials in connection with Welsh shows, so that the dairy properties of the breed are not as well known as they

deserve to be. The following are a few examples of dairy performances which have been casually encountered:

Colonel Platt, in his pamphlet published in 1885, quotes the Rev. W. Davies, from the latter's book on the Agricultural and Domestic Economy of North Wales, which appeared in 1810. This book contains the record of a Welsh cow that gave, from May 1 to October 30, 4,026 quarts of milk, which produced 358 pounds of butter, or nearly 2 pounds a day, the milk averaging 22 quarts a day for 183 days.

Professor Winter mentions a Welsh cow, the Duchess of Carnarvonshire, that won a championship a few years ago at the London dairy show. He also mentions a Welsh cow that was awarded first prize in similar trials at the Tring show in August, 1905, in a class of twenty-eight competitors, nearly all of which were Jerseys.

The only herd record that is available is that of the one at the farm of the University of North Wales, near Bangor, North Wales, which the writer visited last summer. The exact figures were not procured, but a general idea of the profitableness of this herd is given in Professor Winter's own words, as follows:

In the college herd of 25 cows, of average capacity from the point of view of the dairy, the milk and butter sold from each cow for the last three years has produced on the average £20 (\$100) per year. In addition to this, with one or two exceptions all the cows have reared calves.

It is only fair to state, however, that the marketing conditions which apply to this herd are unusually favorable, inasmuch as the situation of the farm enables the products of the dairy to be sold at city prices direct to the consumer, and the cost of handling would be much lower than the average in this country.

#### PRESENT-DAY METHODS OF MANAGEMENT.

Information along this line has been procured by means of personal statements from a few prominent breeders in different sections of both North and South Wales. The methods of managing the herd just mentioned on the experimental farm of the University College of North Wales, are told below by Prof. Thomas Winter, professor of agriculture at the university named, who resides on the farm and supervises the entire work done:

The herd of Welsh Black cattle belonging to the University College of North Wales is kept at the college farm, Madryn, near Bangor. It consists of about 25 cows and their offspring. All calves are reared; a few of the males are kept for bulls, but the majority are castrated. Those that are intended for show purposes suckle their dams, the rest are fed on new milk for about three weeks, after which separated milk and boiled linseed are gradually substituted, until at 5 or 6 weeks old the new milk has been entirely replaced. All calves, except those on their dams, are fed from the bucket until they are at least 4 months old. The feed usually consists of separated milk and boiled linseed; but oatmeal and, to a certain extent, wheat flour are also used.

As soon as the calves will eat they are given small quantities of crushed oats and linseed cake, with a little sweet hay, and during the autumn and winter a few sliced swedes (rutabagas). The quantities of these are gradually increased, so that by the time the calf is 6 months old it is receiving about a pound of concentrated food per day. All calves 6 months old or over are turned out to grass about the middle of May. The concentrated food is continued for a time, but if grass is plentiful no concentrated food is given after the first fortnight. Shelters from the heat are always provided where possible.

About the middle of August the calves are brought in in the evenings, but continue to run out during the day until the end of October and often throughout the winter when the weather is favorable. From October onward they are given hay and a small quantity of crushed oats and linseed cake, and as soon as the grass begins to fail pulped roots and chaffed hay and straw in addition, the quantities of prepared foods being gradually increased as the winter advances.

During their second summer the young stock get nothing except what they pull from the pastures. If the weather is favorable and there is plenty of grass they are kept out until December, when they are brought in at nights and given a feed of pulped roots and chaffed hay and straw night and morning, with long straw in their racks.

The bullocks are fed off for the butcher at from 2 to 2½ years old. Heifers are put to the bull so as to calve at from 2½ to 3 years old.

The cows run out all the year round, but are housed at nights from November to April. During the winter they receive a moderate supply of roots and long hay. Those in milk get on the average about 4 pounds of concentrated food (the bulk of which is cotton cake) daily throughout the year. Some of the milk is sold and the rest is made into butter.

The above herd has a long record of prize winners, and several of its present members are shown in the illustrations accompanying this article, including the group shown on plate 1.

Following is the testimony of a breeder of a number of prize-winning "Blacks:"

I have found young steers of the Welsh breed give as satisfactory increase in weight for food consumed as in the case of Shorthorn steers of same age. The latter come out a week or two sooner, but show no more profit when sold by live weight, as is my custom. They are fair dairy cattle and keep up their milk for a long time after calving.

For experiment I tried two or three Shorthorn heifers and cows at first with my Blacks and with like treatment the Welsh kept in good condition while the Shorthorns fell off a good deal. My land is exposed and lies 300 feet above the sea. The result of the carcass competition at Smithfield this year should satisfy breeders of Welsh Blacks of the great merit of the breed as a beef producer. The animals always kill and weigh better than they look. As I only keep about 12 or 14 cows I have not many to choose from. I have had 5 pairs of twin calves in the past four years and have not lost a calf.

Mr. I. W. Griffiths, the owner of the well-known Penally Court herd, of South Wales, furnishes the following statement. The herd in question is famous for the milking properties of the cows and has many cups and special prizes to its credit.

*Treatment.*—The treatment of my herd at present varies very much; first, because of having a large milk round, for which I find it a great boon to have sufficient machinery to utilize everything grown on the farm for feeding the stock. By pulping roots with hay, chaff, etc., with the addition of some artificial feedstuffs, I find I get the most economical feeding.



*Breeding.*—I find it more profitable to suckle the calves I rear, either on their dams or on foster mothers. By so doing I have been the most successful exhibitor in South Wales of late years, and I attribute my success to the calves getting access to their dams more frequently than by hand. I am not an advocate of inbreeding, but with a large herd you have advantages of breeding from a few different strains. Like produces like, but I still maintain that a little fresh blood by very careful selection is desirable now and again. It is proverbial of Welsh breeders to sell the sires to the butcher before seeing results, thereby retarding the breed to a great extent. I have seen this often and often in my experience.

*Milking capacity.*—By very judicious selection the Welsh cattle milk very well indeed, and undoubtedly compare favorably with other breeds. My herd are all outlyers. I find their constitutions better, their milking properties increased, and attribute it to free access to water, etc. The milk also is more wholesome and less contaminated than when the cattle are housed. They are guaranteed to stand the tuberculin test.

The pastures of Wales are very deficient for feeding, therefore the cattle are mostly sent to the midland counties of England. The best bred ones are in very great demand.

Another well-known herd of Welsh Black cattle with a large prize record is the one at Blaenwernddu, Whitland, South Wales. Concerning the management of this herd the owner, Mr. John Scourfield, says:

*Breeding.*—The females in this herd are kept for breeding purposes only and are hardly ever exhibited, being kept in the most natural condition, as it has been found that the breeding qualities of heifers are interfered with by overfeeding and pampering for show purposes. The calving season usually commences about the first week in October and generally all the calves required for rearing are dropped by the end of January. Those coming after this date are mostly sold for rearing to purchasers by means of advertising in the local papers, for which there is a good demand.

The calves are allowed to suck their dams for about three weeks, the bull calves for a month; they are then weaned and fed with fresh and skim milk in equal quantities for the next week; then the skim milk gradually replaces the fresh until it is withdrawn altogether. Then the calves are supplied with some dry food in addition, so as to keep them going—such as crushed oats, linseed cake, also mangolds. In May the heifer calves are turned out to grass, having access to some open sheds for shelter from the sun in the hot weather. They are given a little dry food again once a day. The bull calves are mostly all kept indoors, as they do less damage to themselves. They are turned out for a little exercise in the yard every day, but not to the field.

*Feeding.*—The cows are fed with a view to producing the greatest quantity of butter after the calves are weaned. Their food consists of some meadow hay (and straw during the winter nights), and about 4 pounds each every day of barley, or maize meal and bran, with about 3 pounds each in addition of undecorticated cotton cake until turned out to grass, then the meal is dropped and the cake continued for a short time, as it is found that it is effective in checking the effects of the succulent herbage in the spring of the year. The cows are hardly ever more than two months dry during the whole year, so that in this respect they can hold their own with most of the breeds.

I believe that the Blacks are destined to take an important position among the foremost breeds of cattle in the near future on account of their hardiness and all-round qualities.

## CARCASS COMPETITIONS AND THE BLOCK TEST.

It has before been stated that Welsh cattle are remarkable for their profitableness as butchers' animals. Their value in this respect is the chief reason for bringing them to the notice of cattlemen. Robert Wallace, in *Farm Live Stock of Great Britain* (1889), states that these cattle had long been highly appreciated by the graziers of the English midlands, and that their dressed carcasses ranked in the London market with the best Scotch, which is equivalent to saying they were market toppers.

There is evidence that Welsh cattle were preeminent for their beef qualities over a century ago. Youatt states that about that time a certain strain of the breed—the Glamorgan—commanded the highest price as beef cattle both in the metropolitan and provincial markets. The cattle in question were not black, but were dark brown, with some white on both the under and upper lines, and they are supposed to have originated by crossing the old Welsh breed with imported Normandy cattle. In the early part of the last century, however, owing to changing conditions of husbandry, the Glamorgans began to suffer from neglect, and it was not long before their prestige in the markets was a thing of the past.

## CROSSING WITH SHORTHORNS.

The above-mentioned variety of Welsh cattle suggests the possibility of crossing the latter with Shorthorns for the purpose of producing a good animal suitable for the feed lot. There is, in fact, a practice in vogue in certain places of using Shorthorn bulls with Welsh cows, which seems to be successful.

Mr. Joseph E. Wing, of Mechanicsburg, Ohio, writing in *The Breeder's Gazette* (Chicago) of a visit to a provincial market in England in 1903 where store cattle (stockers) of the leading beef breeds and grades were being sold at auction, mentions a blue-gray cross produced by white Shorthorn bulls and Welsh Black cows, and says of them, "these sold very well."

## WELSH CATTLE AT SMITHFIELD.

The data presented in the following pages in connection with the slaughter test at the Smithfield show, London, England—the premier test of beef cattle in Great Britain—show that the Welsh breed has fairly earned a most enviable reputation at these contests. The favor in which these cattle are held by the butchers is attested by the fact that the visitor to this show will generally find all the stalls containing Welsh cattle marked "Sold" on the first day.

One of the largest butchers in North Wales wrote as follows of the Welsh carcass:

The Welsh steer carries, in proportion to its fatness, more lean, nutritious marbled meat than any other, without an upper layer of fat (a failing of many breeds), a combination in which the Welsh stands almost alone. With this appreciable quality they carry also great thickness of flesh on their sirloins and chins without being heavy and coarse in the inferior joints. They scale remarkably well, several lots weighing in August, after four months grass and cake, 850 pounds, and those kept on until Christmas making from 1,200 to 1,250 pounds the carcass.

The annual slaughter tests at Smithfield have been in existence since 1895. They have been deservedly growing in popularity of late years because of the benefit they undoubtedly confer upon both the cattlemen and the butchers by bringing them together to discuss their mutual interests. It is asserted that a vast improvement has been brought about in the quality of the carcasses since these contests were instituted; at any rate it is significant that the overfed and wastefully fat carcasses of former years are no longer seen.

The accompanying table gives a comprehensive idea of the performances of the various breeds at these tests from the commencement to date.

*Annual standing of breeds at Smithfield carcass competitions, with live weights and percentages of dressed weight of placed animals, 1895-1905.*

[Compiled from the London Live Stock Journal.]

Class and rating.	1895			1896		
	Breed.	Live weight.	Per cent dressed.	Breed.	Live weight.	Per cent dressed.
Steers under 2 years:		<i>Pounds.</i>			<i>Pounds.</i>	
First.....	Crossbred.....	1,320	65.91	Aberdeen-Angus..	1,158	67.19
Second.....	Sussex.....	1,556	65.81	Sussex.....	1,452	66.12
Third.....	Shorthorn.....	1,398	65.88	Crossbred.....	1,322	64.82
Fourth.....	Aberdeen-Angus..	1,246	63.08	do.....	1,359	66.59
Unplaced.....	Hereford.....			Aberdeen-Angus (2).		
Do.....	Aberdeen-Angus..			Galloway.....		
Do.....	Shorthorn.....			Sussex.....		
Do.....	Sussex.....			Welsh (2).....		
Steers over 2 and under 3 years:						
First.....	Highland.....	a1,396	a77.36	Welsh.....	1,576	65.00
Second.....	Galloway.....	a1,689	a54.88	Galloway.....	1,398	66.38
Third.....	do.....	1,658	64.23	do.....	1,385	64.70
Fourth.....	do.....	1,436	68.31	do.....	1,430	65.94
Unplaced.....	Aberdeen-Angus..			Crossbred (4).....		
Do.....	Red Poll.....			Galloway.....		
Do.....	Crossbred (3).....			Highland.....		
Do.....				Shorthorn.....		
Do.....				Sussex.....		

<sup>a</sup> There is evidently a mistake in the figures reported in the Live Stock Journal for these two animals as the percentage comes out in one case too high and in the other too low. They are therefore not taken account of in calculating averages shown in the table on page 14.

*Annual standing of breeds at Smithfield carcass competitions, with live weights and percentages of dressed weight of placed animals, 1895-1905—Continued.*

Class and rating.	1897			1898		
	Breed.	Live weight.	Per cent dressed.	Breed.	Live weight.	Per cent dressed.
Steers under 2 years:		<i>Pounds.</i>			<i>Pounds.</i>	
First .....	Crossbred .....	1,193	64.96	Galloway .....	1,178	64.77
Second .....	Galloway .....	1,262	65.13	Crossbred .....	1,222	65.46
Third .....	Crossbred .....	1,164	64.43	Aberdeen-Angus ..	1,286	65.47
Fourth .....	Galloway .....	938	65.88	Crossbred .....	1,068	64.51
Unplaced .....	Aberdeen-Angus ..			Crossbred (2) .....		
Do .....	Crossbred .....			Galloway (2) .....		
Do .....	Devon .....			Red Poll .....		
Do .....	Red Poll .....			South Devon .....		
Do .....	Sussex (2) .....					
Steers over 2 and under 3 years:						
First .....	Galloway .....	1,355	66.42	Crossbred .....	1,604	65.21
Second .....	Dexter-Kerry .....	946	62.05	do .....	1,436	66.71
Third .....	Crossbred .....	1,432	64.94	do .....	1,332	65.84
Fourth .....	Highland .....	1,308	62.00	Welsh .....	1,608	64.43
Unplaced .....	Crossbred .....			Aberdeen-Angus (2) ..		
Do .....	Galloway (2) .....			Crossbred (2) .....		
Do .....	Shorthorn .....			Devon .....		
Do .....	Sussex .....			Galloway (3) .....		
Do .....	Welsh .....			Hereford .....		
Do .....				Highland .....		
Do .....				Sussex .....		
Do .....				Welsh .....		
Heifers under 3 years:						
First .....				Galloway .....	1,157	64.04
Second .....				Devon .....	1,296	62.89
Third .....				Crossbred .....	1,285	64.59
Fourth .....				Dexter-Kerry .....	971	65.50
Unplaced .....				Crossbred (4) .....		

Class and rating.	1899			1900		
	Breed.	Live weight.	Per cent dressed.	Breed.	Live weight.	Per cent dressed.
Steers under 2 years:		<i>Pounds.</i>			<i>Pounds.</i>	
First .....	Crossbred .....	1,358	64.51	Crossbred .....	1,192	66.02
Second .....	Sussex .....	1,541	64.50	do .....	1,297	65.00
Third .....	Galloway .....	990	64.75	do .....	1,315	64.41
Fourth .....				do .....	1,295	65.64
Unplaced .....	Kerry .....					
Steers over 2 and under 3 years:						
First .....	Aberdeen-Angus ..	1,308	68.35	Aberdeen-Angus ..	1,332	65.92
Second .....	Galloway .....	1,716	67.31	Crossbred .....	1,381	67.13
Third .....	Welsh .....	1,680	64.76	do .....	1,418	63.26
Fourth .....	do .....	1,590	62.77	Dexter .....	1,241	65.83
Unplaced .....	Ayrshire .....			Crossbred (3) .....		
Do .....	Highland .....					
Do .....	Shorthorn .....					
Do .....	South Devon .....					
Heifers under 3 years:						
First .....	Crossbred .....	1,099	60.78	Aberdeen-Angus ..	1,304	62.65
Second .....	(Only one entry) ..			Kerry .....	1,064	62.69
Third .....				Crossbred .....	1,290	62.09
Fourth .....				do .....	1,434	65.27
Unplaced .....						

*Annual standing of breeds at Smithfield carcass competitions, with live weights and percentages of dressed weight of placed animals, 1895-1905—Continued.*

Class and rating.	1901			1902		
	Breed.	Live weight.	Per cent dressed.	Breed.	Live weight.	Per cent dressed.
Steers under 2 years:		<i>Pounds.</i>			<i>Pounds.</i>	
First.....	Welsh.....	1,624	65.88	Crossbred.....	1,079	64.23
Second.....	Crossbred.....	1,355	65.24	Aberdeen-Angus..	1,022	62.72
Third.....	Sussex.....	1,260	65.79	Crossbred.....	1,235	62.27
Fourth.....	Galloway.....	1,043	68.84	do.....	1,328	67.17
Unplaced.....	Aberdeen-Angus.					
Do.....	Crossbred (5).....					
Steers over 2 and under 3 years:						
First.....	Aberdeen-Angus.	1,388	65.85	Welsh.....	1,698	64.25
Second.....	Crossbred.....	1,368	64.69	Aberdeen-Angus..	1,230	68.13
Third.....	Kerry.....	1,371	64.26	Crossbred.....	1,528	65.05
Fourth.....	Crossbred.....	1,252	65.50	do.....	1,384	66.84
Unplaced.....	Aberdeen-Angus.			do.....		
Do.....	Crossbred.....					
Do.....	Galloway (2).....					
Heifers under 3 years:						
First.....	Aberdeen-Angus.	1,345	65.95	Aberdeen-Angus..	1,332	68.17
Second.....	Crossbred.....	1,226	64.44	do.....	1,106	64.20
Third.....	do.....	1,324	64.65	Crossbred.....	1,339	65.20
Fourth.....	do.....	865	62.54	Dexter.....	799	63.58
Unplaced.....	Crossbred (2).....			Crossbred.....		
Do.....				Sussex.....		
Class and rating.	1903			1904		
	Breed.	Live weight.	Per cent dressed.	Breed.	Live weight.	Per cent dressed.
Steers under 2 years:		<i>Pounds.</i>			<i>Pounds.</i>	
First.....	Welsh.....	1,267	59.67	Crossbred.....	1,444	66.90
Second.....	Crossbred.....	1,103	63.10	do.....	1,192	63.67
Third.....	Sussex.....	1,297	67.39	Aberdeen-Angus..	1,104	64.76
Fourth.....	Shorthorn.....	1,188	64.90	Crossbred.....	1,032	63.28
Unplaced.....	Aberdeen-Angus.			Aberdeen-Angus..		
Do.....				Crossbred.....		
Do.....				Sussex (2).....		
Do.....				Welsh.....		
Steers over 2 and under 3 years:						
First.....	Welsh.....	1,480	65.34	Crossbred.....	1,566	68.14
Second.....	Crossbred.....	1,403	65.86	Aberdeen-Angus..	1,487	65.37
Third.....	Kerry.....	1,196	62.96	Crossbred.....	1,378	63.72
Fourth.....	Aberdeen-Angus.	1,339	67.06	Galloway.....	1,340	66.12
Unplaced.....				Aberdeen-Angus.		
Do.....				Galloway (2).....		
Do.....				Welsh (3).....		
Heifers under 3 years:						
First.....	Crossbred.....	1,161	65.63	Aberdeen-Angus..	1,160	63.88
Second.....	Galloway.....	1,100	64.73	Crossbred.....	1,681	66.33
Third.....	Crossbred.....	1,204	64.87	Red Poll.....	1,008	65.38
Fourth.....	Dexter.....	1,014	65.29	Welsh.....	1,268	64.91
Unplaced.....	Welsh.....			Aberdeen-Angus.		
Do.....				Crossbred (4).....		
Do.....				Kerry.....		

*Annual standing of breeds at Smithfield carcass competitions, with live weights and percentages of dressed weight of placed animals, 1895-1905—Continued.*

Class and rating.	1905		
	Breed.	Live weight.	Per cent dressed.
Steers under 2 years:		<i>Pounds.</i>	
First.....	Welsh.....	1,346	64.86
Second.....	Crossbred.....	1,302	64.13
Third.....	do.....	1,200	65.67
Fourth.....	do.....	1,204	62.21
Unplaced.....	Red Poll.....		
Steers over 2 and under 3 years:			
First.....	Welsh.....	1,470	64.76
Second.....	Crossbred.....	1,458	63.65
Third.....	do.....	1,008	63.00
Fourth.....	Welsh.....	1,656	63.71
Unplaced.....	Crossbred.....		
Heifers under 3 years:			
First.....	do.....	1,247	65.12
Second.....	do.....	1,160	64.83
Third.....	Red Poll.....	1,157	64.22
Fourth.....	Welsh.....	1,374	64.05
Unplaced.....	Crossbred.....		

COMPARATIVE SHOWING OF BREEDS AT THE SMITHFIELD SLAUGHTER TESTS.

In order to make as close a comparison as possible from the data in the preceding tables a summarized statement showing the performance of each breed for the entire eleven-year period is now presented.

*Summary of placings of breeds at Smithfield carcass competitions for eleven-year period, 1895-1905.*

Breed.	Total animals entered.	Number of times—				
		First.	Second.	Third.	Fourth.	Unplaced.
Aberdeen-Angus.....	29	8	4	2	2	13
Ayrshire.....	1					1
Crossbred.....	87	10	14	16	10	37
Devon.....	3		1			2
Dexter.....	3				3	
Dexter-Kerry.....	2		1		1	
Galloway.....	29	3	5	3	5	13
Hereford.....	3					3
Highland.....	5	1			1	3
Kerry.....	5		1	2		2
Red Poll.....	6			2		4
Shorthorn.....	6			1	1	4
South Devon.....	3	1				2
Sussex.....	15		3	2		10
Welsh.....	22	7		1	5	9

It is seen that the majority of the breeds in the above tables have only a few scattered entries, and only five (including the crossbreds) run into double figures. The crossbreds have by far the most numerous entries and it is therefore not surprising they have captured the most prizes. It should also be stated that they help to represent the Shorthorn breed in these competitions, as the great majority of the crosses contain Shorthorn blood.

It is somewhat difficult to place the breeds in order of merit by reason of the uneven number of entries and the necessity of giving a different weight to each one of the four grades of prizes. It can easily

be seen, however, that the Welsh have more firsts to their credit in comparison with the total number of entries than any of the others, but the general excellence of the Angus carcasses is undeniable, and probably on the whole showing this breed is entitled to come first, with the Welsh a close second, the crossbreds third, and the Galloway fourth. This placing is arrived at by assuming a scale of points ranging, by tens, from 100 for first to 60 for unplaced. On this scale the percentages for each breed work out as follows: Aberdeen-Angus, 77; Welsh, 76; crossbred, 74; and Galloway, 73. The remaining breeds do not make as good a showing as the four mentioned, and are not included because of the smallness of their total entries.

LIVE WEIGHTS AND PERCENTAGES OF DRESSED WEIGHT TO LIVE WEIGHT.

In order to obtain an idea of the relative size and dressed percentages of the leading breeds in the carcass tests, the following statement of the average live weights and percentages of dressed weight to live weight of the prize winners (taken from the table on page 10) for the eleven-year period is given. Only the four leading breeds above mentioned are used, for the same reason as before stated.

*Average live weights and dressed percentages of prize winners of four leading breeds at Smithfield slaughter tests for eleven-year period, 1895-1905.*

Breed.	Average live weight.			Average dressed percentage.		
	Steers under 2 years.	Steers over 2 and under 3 years.	Heifers.	Steers under 2 years.	Steers over 2 and under 3 years.	Heifers.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>			
Aberdeen-Angus.....	1,163	1,347	1,250	64.68	66.73	65.04
Crossbred.....	1,243	1,382	1,255	64.85	65.37	64.47
Galloway.....	1,082	1,465	1,128	65.83	66.15	64.38
Welsh.....	1,412	1,595	1,321	63.68	64.36	64.46

It is seen that the Welsh are the weightiest animals in all the classes. On the other hand, they are lowest in dressed percentages in the steer classes, but the heifers come out with a good average.

EARLY MATURITY.

Welsh cattle are sometimes criticised on the score of late maturity. They probably were somewhat slow feeders in the past, but the adherents of the improved breed claim it is now in the front rank of rapid fatteners. In order to give this matter a thorough test the statement below has been prepared, showing the average age and the average daily gain of the steers under 2 years old at the Smithfield show for the past six years. Seven of the leading beef breeds are taken, and the ages and daily gains of all their entries (as stated in the London Live Stock Journal) are averaged for each year; finally an average is computed

for the whole period as well, and this is assumed to be a fair indication of what each breed is capable.

It is seen from this that although the Welsh come in two or three weeks later than the others they are above the average in daily gains. It is rather singular that two extremes are found in one breed—the Galloway—which averaged lowest in gains and next to the youngest in age. Only four of the breeds have daily average gains exceeding 2 pounds, and they come out very close to each other, there being less than one-tenth of a pound between the highest and the lowest. The four in question, with their average daily gains, are: Shorthorn, 2.17 pounds; Hereford, 2.14 pounds; Aberdeen-Angus, 2.12 pounds; and Welsh, 2.08 pounds.

*Average age and daily gain of steers under 2 years old of seven leading breeds at Smithfield for six years, 1900–1905.*

Breed.	Number of entries.	Average age.	Average daily gain.	Breed.	Number of entries.	Average age.	Average daily gain.
1900.				1903—Continued.			
		<i>Days.</i>	<i>Pounds.</i>			<i>Days.</i>	<i>Pounds.</i>
Aberdeen-Angus.....	4	680	2.18	Red Poll.....	4	617	1.87
Devon.....	8	686	1.86	Shorthorn.....	5	690	2.07
Galloway.....	4	656	1.86	Welsh.....	7	680	1.97
Hereford.....	5	694	2.14				
Red Poll.....	4	688	1.82	1904.			
Shorthorn.....	5	697	2.16	Aberdeen-Angus.....	5	682	2.00
Welsh.....	6	708	2.06	Devon.....	6	673	1.70
				Galloway.....	3	699	1.82
1901.				Hereford.....	4	662	2.15
Aberdeen-Angus.....	6	687	2.11	Red Poll.....	2	645	1.74
Devon.....	4	669	1.83	Shorthorn.....	5	669	2.20
Galloway.....	5	647	2.00	Welsh.....	6	715	2.18
Hereford.....	5	671	2.09				
Red Poll.....	4	629	1.83	1905.			
Shorthorn.....	6	648	2.26	Aberdeen-Angus.....	9	676	2.00
Welsh.....	4	718	2.18	Devon.....	4	679	1.93
				Galloway.....	6	645	1.77
1902.				Hereford.....	5	677	2.24
Aberdeen-Angus.....	7	682	2.17	Red Poll.....	4	641	2.00
Devon.....	6	683	1.81	Shorthorn.....	7	682	2.19
Galloway.....	2	694	1.85	Welsh.....	6	708	2.02
Hereford.....	5	682	2.07				
Red Poll.....	2	647	1.94	<i>Average for 6 years.</i>			
Shorthorn.....	5	680	2.12	Aberdeen-Angus.....	37	678	2.12
Welsh.....	7	708	2.12	Devon.....	33	679	1.81
				Galloway.....	25	663	1.65
1903.				Hereford.....	30	672	2.14
Aberdeen-Angus.....	6	660	2.32	Red Poll.....	20	644	1.87
Devon.....	5	679	1.74	Shorthorn.....	33	677	2.17
Galloway.....	5	670	1.79	Welsh.....	36	705	2.08
Hereford.....	6	650	2.13				

#### THE BLOCK TEST.

Under this heading the London Live Stock Journal has been accustomed from year to year to publish reports procured from the butchers relating to the slaughter of the fat stock exhibited and sold from the Smithfield show. The purpose of the Journal was to get data on the important question of how the cattle fared after they had passed through the auctioneer's hands, and so the various slaughtering firms were annually requisitioned for the details given



in the table below. This practice had been carried on for many years previous to the inauguration of the carcass competitions at this show, when the necessity of showing such details was much greater than it was after these tests became an annual fixture; but the work was considered so useful that it has been continued up to the present time.

The butchers' reports from this source of some of the Welsh cattle slaughtered from the Smithfield show of last Christmas, together with a tabular statement showing details of slaughter, are as follows:

No. 183. Welsh steer Cymro, commended in his class, 2 years 11 months and 6 days old. The butcher who purchased him reports "it was a splendid body of beef, not too fat, and had plenty of kidney suet."

No. 193. Welsh heifer Queen, second in class (also second at Birmingham), aged 2 years 9 months and 14 days. The purchaser states it was a "most satisfactory body of beef."

No. 175. Welsh steer Cymro, third in class, age 1 year 11 months 23 days. Butcher reports "a real good butcher's bullock, no waste, good color, and a grand cutter."

No. 177. Welsh steer, first in class, age 1 year 10 months. The purchaser states it was a "good butcher's bullock and a grand body of beef, well laced, with very little waste; flank and briskets lean."

No. 184. Welsh steer, age 2 years 11 months. The slaughterer reports it was a "lovely butcher's beast, not patchy of fat anywhere, good flesh, well mottled, and no trouble to sell."

*Butchers' reports of Welsh cattle slaughtered from the Smithfield show of 1905.*

Catalogue No. and description.	Age.	Live weight.	Average daily gain.	Dressed weight.	Percent- age of dressed weight to live weight.	Weight of hide.	Weight of loose fat.
<i>Steers under 2 years old.</i>							
	<i>Days.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>		<i>Pounds.</i>	<i>Pounds.</i>
174. Welsh steer (Duke) .....	716	1,374	1.91	828	60.99	.....	.....
175. Welsh steer (Cymro) .....	718	1,497	2.08	898	59.98	.....	.....
176. R. Roberts's Welsh steer.....	716	1,412	1.97	756	60.62	.....	.....
177. W. Hughes's Welsh steer.....	665	1,437	2.16	916	63.74	.....	.....
<i>Steers over 2 and under 3 years old.</i>							
179. Welsh steer (Twm Shon Catti) .....	1,021	1,859	1.80	1,152	62.27	.....	104
183. Welsh steer (Cymro) .....	1,066	1,685	1.58	1,114	66.11	96	95½
184. R. Hughes's Welsh steer.....	1,060	1,568	1.48	976	62.24	110	72
187. Welsh steer (Jero) .....	1,085	1,519	1.40	944	62.14	102	62
188. Welsh steer (Jack) .....	1,084	1,555	1.43	952	61.22	109	67
190. Welsh steer (Sarn Boy).....	1,085	2,011	1.85	1,296	64.44	130	82
<i>Heifers under 2 years.</i>							
192. Welsh heifer (Waen).....	692	1,593	2.30	1,002	62.90	82	120
<i>Heifers over 2 years.</i>							
191. Welsh heifer (Angharad Du) .....	1,081	1,887	1.74	1,236	65.50	106	110
193. Welsh heifer (Queen) .....	1,014	1,544	1.52	1,026	66.45	79	88

PRICES OF PEDIGREED WELSH CATTLE.

The Welsh is not one of the so-called "fashionable" breeds; consequently purebred animals of good quality can generally be bought for much less than the prices paid for well-bred specimens of such

breeds as the Shorthorn, Hereford, or Aberdeen-Angus. In order to give stockmen in the United States a line on the probable cost of investing in purebred Welsh stock, the following particulars of two public sales, one in the northern and one in the southern portion of the principality, are presented. It should be understood, of course, that it would probably cost about \$20 per head additional to land the animals in this country.

The only account at hand of a public sale of the northern, or Anglesea, branch of the breed is that of a sale held at the Madryn farm, near Bangor, North Wales (since become the experimental farm of the University College of North Wales), on September 24, 1901. The particulars of the lots sold at this sale were furnished by Messrs. W. Dew & Son, auctioneers, Bangor, North Wales, and are as below. Mr. Dew, it may be mentioned, was one of the pioneers in the movement for improving the Welsh breed, he having been editor and honorary secretary of the first herdbook, issued in 1883, of the North Wales Black Cattle Society.

Bulls:	Guineas. <sup>a</sup>
Mafeking, <sup>b</sup> 3½ years old, sold for.....	31 = \$158
Ringleader, 19 months old, sold for.....	30 = 153
Winner of 3 prizes, 2 firsts and 1 second.	
Marion Duke, 20 months old, sold for.....	19 = 97
Winner of a second prize.	
Madryn Plumer, 19 months old, sold for.....	18 = 92
Bull calves:	
San Toy, 7 months old, sold for.....	15 = 77
Winner of 2 first prizes.	
Iarll Tanybwlech, 9 months old, sold for.....	15 = 77
Cows:	
Gafaill, 3 years old, sold for.....	22 = 112
Winner of 4 prizes, 1 first, 2 seconds, and 1 third.	
Gweno, 2½ years old, sold for.....	19½ = 100
Fawnog, 6 years old, sold for.....	15 = 77
Winner of 3 prizes, 2 firsts and 1 second.	
Heifers:	
Marion Beauty, 20 months old, sold for.....	21 = 107
Winner of 3 prizes, 2 firsts and 1 third.	
Plas Dolly, 17 months old, sold for.....	19 = 97
Mari Ddu, 1 year old, sold for.....	17 = 87
Winner of a first prize.	
Averages for the above sale:	
4 bulls averaged.....	24½ = 125
2 bull calves averaged.....	15 = 77
3 cows averaged.....	18½ = 96
3 heifers averaged.....	19 = 97

There is an annual sale of Welsh Black cattle held at Whitland, South Wales, every fall. Mr. W. E. Evans, Priory House, Milford

<sup>a</sup> One guinea = £1 1 s. = \$5.1098.

<sup>b</sup> A picture of Mafeking (at 9 years old) is seen in the group on plate 1.

Haven, South Wales, who is the official auctioneer at this sale, has kindly furnished the following particulars of the last one, held October 24, 1905:

Bulls:	Guineas.	
Duke of Connaught, 3 years, sold for . . . . .	45	=\$230
Winner of 2 firsts and 1 first and champion.		
Duke of Pembroke, 16 months, sold for . . . . .	21	= 107
Togo, 13 months, sold for . . . . .	21	= 107
Winner of 1 second.		
Dyffryn Hero, 1 year 9 months, sold for . . . . .	20	= 102
Winner of 1 first.		
Matchless, 13 months, sold for . . . . .	20	= 102
Chris, 17 months, sold for . . . . .	18	= 92
Brython, 1 year, sold for . . . . .	17	= 87
Ap Iorwerth, 1 year 4 months, sold for . . . . .	14	= 72
Milwr, 1 year, sold for . . . . .	14	= 72
Robert II, 1 year 1 month, sold for . . . . .	14	= 72
Mikado, 1 year 1 month, sold for . . . . .	12	= 61
Elwyn, 1 year, sold for . . . . .	12	= 61
Gwron, 1 year 4 months, sold for . . . . .	12	= 61
Black Duke, 1 year, sold for . . . . .	12	= 61
Bull calves:		
King Bruce, 11 months, sold for . . . . .	25	= 128
Winner of 1 third.		
Jimmy Jones, 11 months, sold for . . . . .	22	= 112
Llwynog, 11 months, sold for . . . . .	20	= 102
Cardo, 9 months, sold for . . . . .	15	= 77
Conin Prince, 10 months, sold for . . . . .	14	= 72
Prince Alfred, 9 months, sold for . . . . .	14	= 72
Llanboidy Squire, 9 months, sold for . . . . .	13	= 66
Golden Prince, 11 months, sold for . . . . .	12½	= 64
Defiance, 8 months, sold for . . . . .	12	= 61
Brynach, 11 months, sold for . . . . .	12	= 61
Robin Du, 11 months, sold for . . . . .	12	= 61
Victor, 9 months, sold for . . . . .	12	= 61
Winner of 1 first.		
Prince, 11 months, sold for . . . . .	10	= 51
Model, 8 months, sold for . . . . .	10	= 51
Togo, 7 months, sold for . . . . .	10	= 51
Ap Hywel, 9 months, sold for . . . . .	10	= 51
Billy II, 10 months, sold for . . . . .	9	= 46
Duke of Fishguard, 3 months, sold for . . . . .	7½	= 38
St. George II, 6 months, sold for . . . . .	7	= 36
Cows:		
Blodwen, 8 years, sold for . . . . .	35	= 179
Winner of 40 first and second prizes and 4 silver cups.		
Cornfelen II, 2 years 1 month, sold for . . . . .	14½	= 74
Pensquar, 2 years 3 months, sold for . . . . .	13	= 66
Calf at foot, sold for . . . . .	2½	= 13
Little Jane, 9 years, sold for . . . . .	10½	= 54
Heifer calves:		
Emily, 11 months, sold for . . . . .	10	= 51
Berny Posy, 11 months, sold for . . . . .	10	= 51

Averages of above sale:	Guineas.
14 bulls averaged .....	18 = \$92
19 bull calves averaged .....	13 = 66
4 cows averaged .....	18½ = 93
2 heifer calves averaged .....	10 = 51

#### THE ILLUSTRATIONS.

Plate 1. A portion of the herd of Welsh Black cattle at the University College of North Wales experimental farm, located at Madryn, near Bangor, North Wales. This was formerly the farm of Col. Henry Platt, for a long time one of the best-known and most successful breeders of Welsh cattle in North Wales. The mountain in the background is Penmaenmawr (1,553 feet high). It is at the northern end of the Snowdonian Range and has upon its summit the ruins of an ancient British fort. The sea is near by to the left, although not shown in the illustration. The herd in question is a very profitable one, both from the dairy point of view and in breeding for the butcher. An account of its management is given on page 6.

Plate 2, fig. 1. Welsh bull, Mallard 433 N. W. The picture was taken at the time the animal was shown at the English "Royal" at Cardiff, South Wales, in 1901. He took the first prize for aged bulls on that occasion, he being then 4 years old and described as a very weighty animal, deep and well built, with grand back. He was bred in Anglesea, North Wales, and shown by Col. H. Platt.

Plate 2, fig. 2. Heifer, Wern Gem, champion female in the Welsh classes at the "Royal" of 1903. Bred by the well-known breeder and exhibitor, R. M. Greaves, of Portmadoc, North Wales. This heifer was sired by Mafeking and was described as a most massive, deep, and well-ribbed animal.

Plate 3, fig. 1. Four-year-old bull, Lloffwr 161. A level and weighty bull, with good fore end and back; bred and exhibited by John Scourfield, Whitland, South Wales. Among the latest honors secured by this bull was a first and cup at the "Royal" of 1905; but a little later, at the Welsh National Show, he was placed second to Ap Klondike, bred by Lord Stanley, of Anglesea, North Wales.

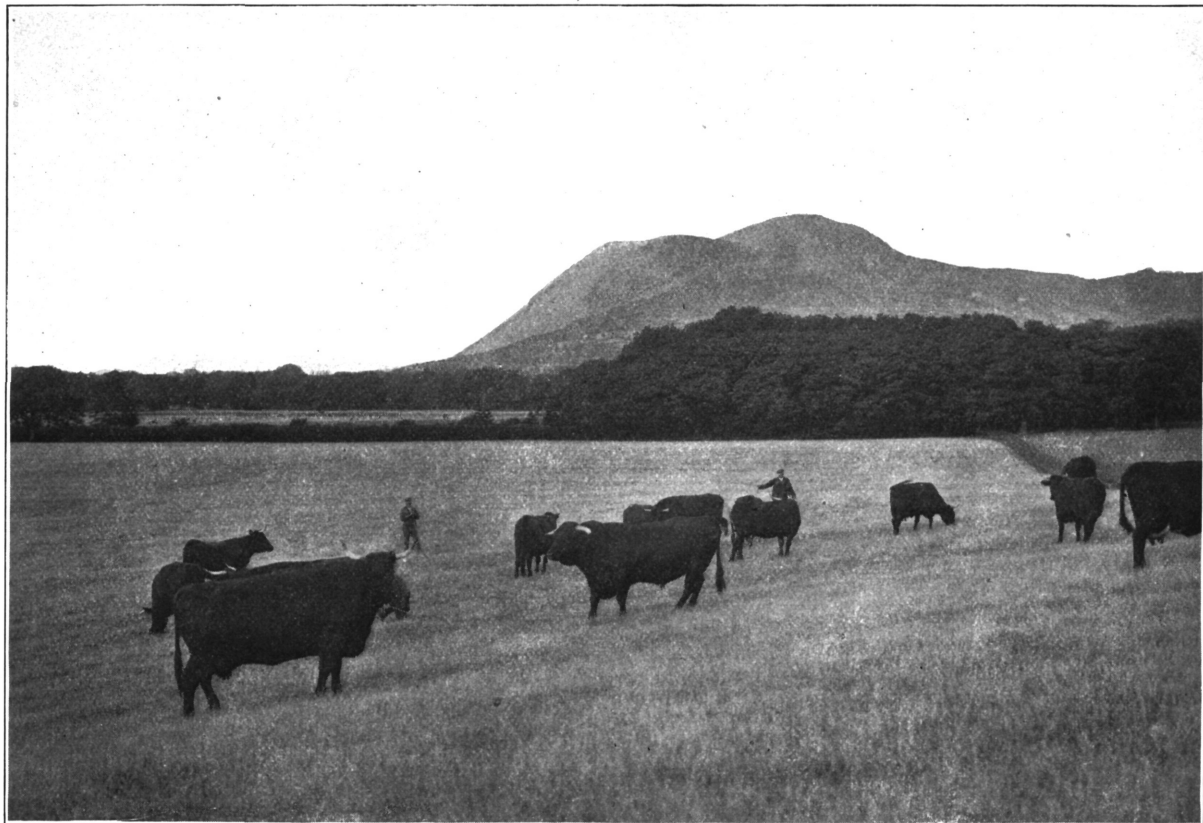
Plate 3, fig. 2. Derw Boy 111, 1½ years old, a son of the above (Lloffwr). This smart youngster is very level and correct in outline and full of quality. He achieved the highest show honors in his class last year, having swept the board at both the English Royal and Welsh National shows. He is now owned by John Worthington, of Fishguard, Pembroke, South Wales.

Plate 4. Heifers, Madryn Beryl 611 and Madryn Mair 610. These level and good-looking heifers are prominent members of the herd at the University College of North Wales experimental farm and were brought out and photographed (among others) during the writer's visit to this herd. Madryn Beryl, to the left of the picture, has been

the more distinguished of the pair in the prize ring, having been first in her class at the "Royal" of 1905, besides winning another first and a second during the year named. Madryn Mair has had success in the ring also. The latter was sired by Hyfwr and bred by Humphrey Ellis, Bangor. Madryn Beryl was sired by Mafeking, the herd bull at the above-mentioned farm, who is shown in the group on plate 1.

Plate 5. Madryn Sally 595 and calf. This is one of the most useful dams of the University herd, above alluded to, and was 6 years and 2 months old when photographed. Madryn Sally has won much distinction in the ring, having more than one first to her credit in North Wales shows, but she is somewhat lacking in style, and for this reason has generally failed to land the chief prize when pitted against the best of her sex at the big shows.

[Cir. 104]



A portion of the herd of Welsh black cattle at the University College of North Wales Experimental Farm. The bull, Mafeking 181, in the middle ground, is 9 years old and has sired a large number of winners.



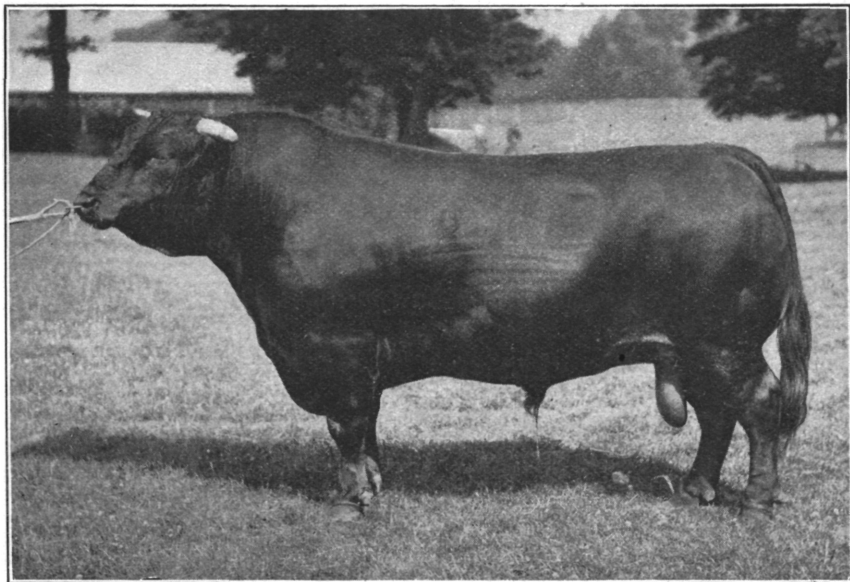


FIG. 1.—Welsh black bull Mallard 433 N. W. Four years old. Winner of first prize at Royal Show, 1901.

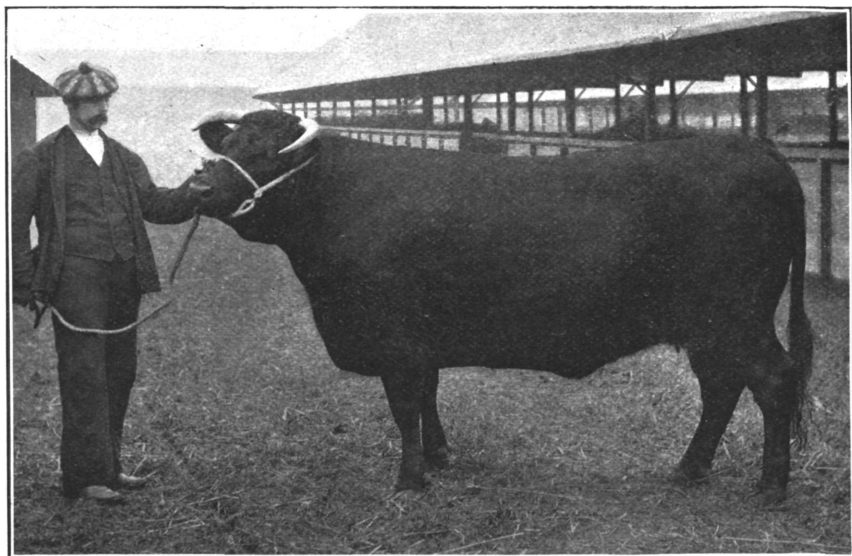
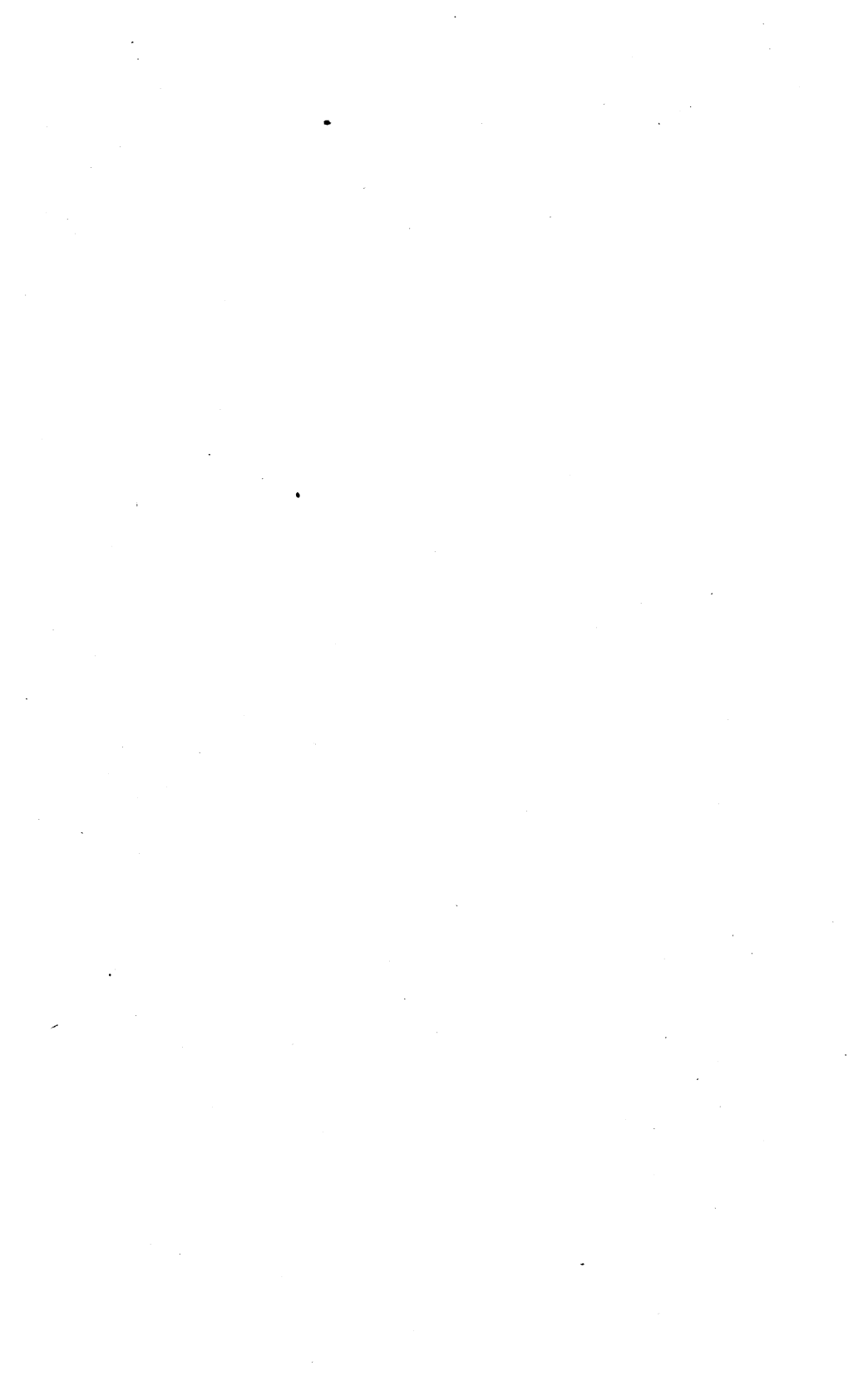


FIG. 2.—Welsh black heifer Wern Gem. Champion female at Royal Show, 1903.

[Cir. 104]





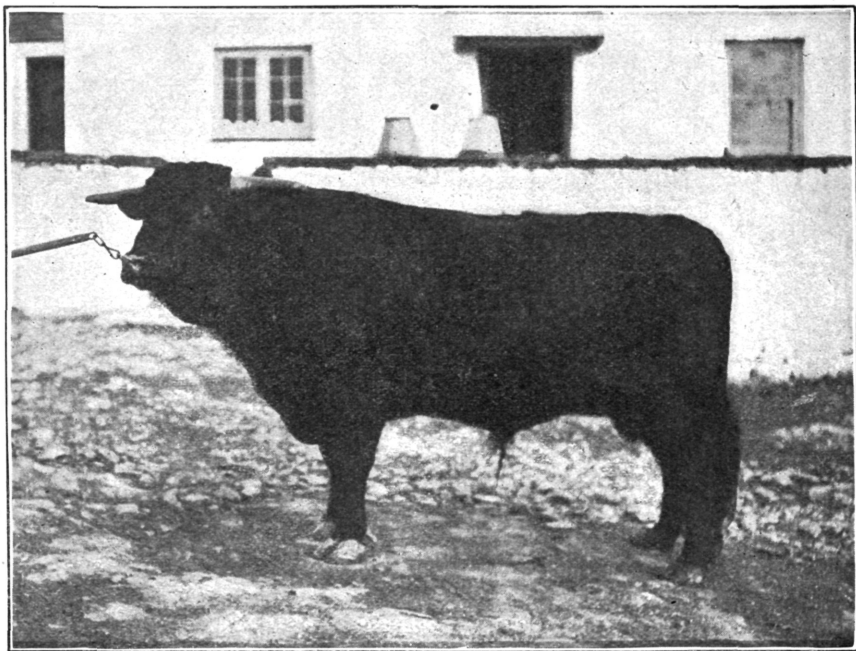


FIG. 1.—Welsh black bull Lloffwr 161. Four years old. Winner of first prize at English Royal Show, 1905; second at Welsh National Show, 1905; and a great number of other prizes.

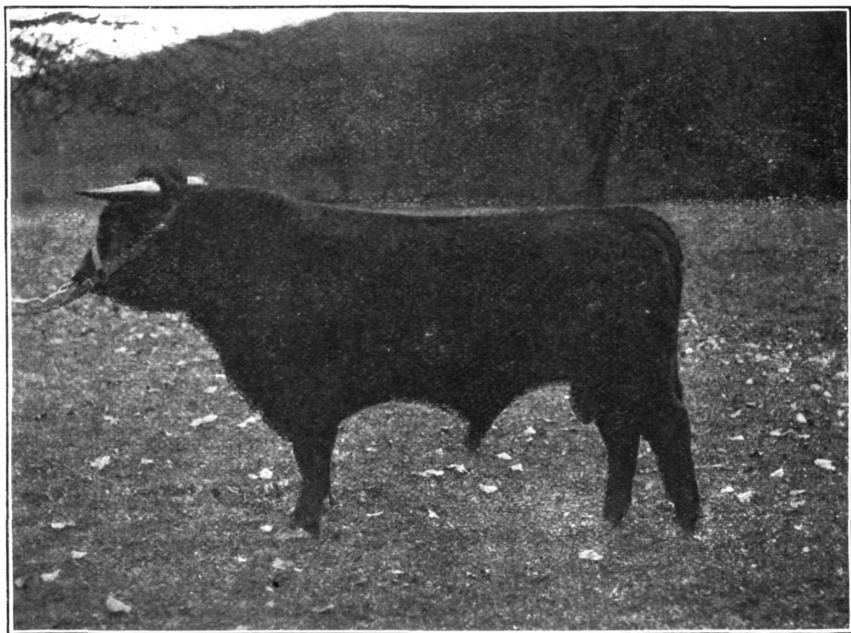


FIG. 2.—Welsh black bull Derw Boy 111. One and one-half years old. First in class at English Royal Show, 1905, and first and special at Welsh National Show, 1905,



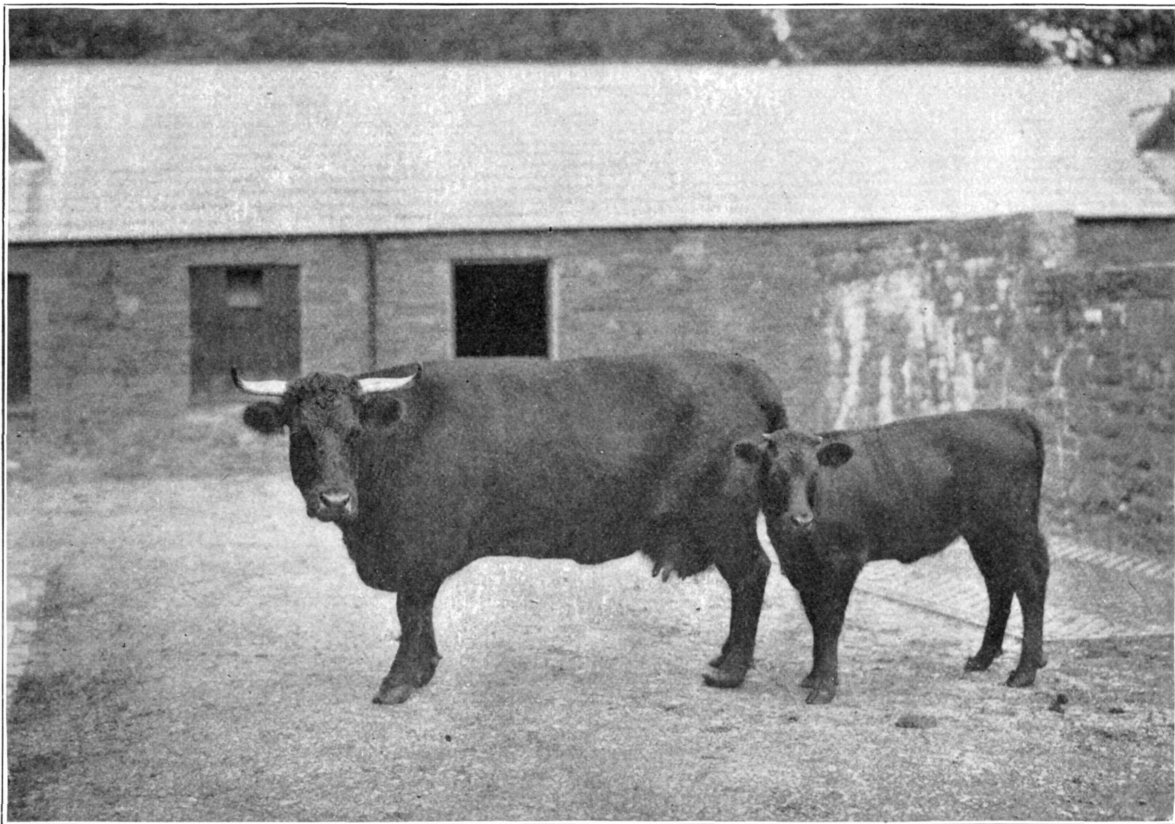
PLATE 4.



[Cir. 104]

Two Welsh black heifers, Madryn Beryl 611 and Madryn Mair 610, at the University College of North Wales Experimental Farm.  
Winners of several prizes.





Welsh black cow Madryn Sally 595 and calf. Members of herd at University College of North Wales Experimental Farm. The cow is 6 years old and has won several prizes.